

Review of Clean Coal Technology Worldwide and the Southern African Perspective

*Second International Energy Agency Clean Coal Centre
(IEA.CCC) Conference and Workshop on
Clean Coal Technology in Southern Africa*

Presented by
Fossil Fuel Foundation of Africa
&
Eskom

SECOND ANNOUNCEMENT & PROGRAMME

Date

20 and 21 April 2010

Venue

*Franklin Auditorium, Eskom Conference Centre
Megawatt Park, Woodmead, Johannesburg*

OBJECTIVES

This conference and workshop will provide a review of current clean coal technologies in selected developed countries, and will critically assess them for their potential application in Southern Africa.

International experts under the auspices of the International Energy Agency Clean Coal Centre (IEA.CCC) will discuss

- § Technologies as experienced in their own countries
- § Barriers and enablers such as government, industry and public perceptions
- § Funding, legislation, pilot studies and policies, and
- § Cooperation between government departments

Thereafter interactive sessions will be facilitated between the speakers and Southern African industry and policy leaders in order to reach a Southern African perspective on the barriers and enablers and the technologies and opportunities most suited to Southern Africa.

MOTIVATION

The international effort to reduce greenhouse gas emissions, and hence limit the effects of climate change, is gaining momentum and *Southern African countries are now required to respond.*

South Africa's President Jacob Zuma announced, on 6 December 2009, prior to the start of the Climate Change Negotiations in Copenhagen, that South Africa would undertake a range of voluntary nationally appropriate mitigation actions. These will result in a deviation below the current emissions baseline of around 34% by 2020 and by around 42% by 2025. This enables South Africa's emissions to peak between 2020 and 2025, then plateau for approximately a decade and finally decline in absolute terms thereafter.

In world terms, the reductions in emissions required are from today's 6.7 tons for every person on Earth to 1.6 tons by 2050. Coal based emissions account for 2.0 tons of current totals.

While the coal industry may take comfort from the perceived problems of the alternatives - nuclear energy has high capital costs and renewable sources are still several years away from maturity and cost competitiveness, *the reality is that without significant increases in coal combustion efficiencies and successful carbon capture and storage, the industry will not survive to 2050.* Hence huge technical challenges lie ahead for the industry, unlike the incremental developments of the past. The impediments to using clean coal technologies may no longer be with the technologies themselves – the biggest hurdle is society's reluctance to change and to pay more for energy.

Southern Africa, as a developing region with a strong coal-based economy, is currently reviewing its options with respect to clean coal technologies, and for this reason is opening its doors to experts from the rest of the world to assist in guiding these developments.

INTERNATIONAL SPEAKERS

- Ø Dr John Topper –IEA.CCC [Global Overview](#)
- Ø Dr Hans Joachim Meier – [Europe](#)
- Ø Dr Anthony Campisi - [Australia](#)
- Ø Dr Kourosh Zanganeh - [Canada](#)
- Ø Mr William Fernald – [USA](#)
- Ø Mr Bill Koppe - [GCCSI](#)
- Ø Mr Robert Davidson –IEA.CCC
- Ø Dr Colin Henderson – IEA.CCC
- Ø Dr Lesley Sloss – IEA.CCC
- Ø Mr Gordon Couch – IEA.CCC

WHO SHOULD ATTEND

Those who have an interest in the sustainability of the coal industry:

- Mining industry personnel - geologists, mining/beneficiation engineers, management
- Users of coal in the fields of power generation, coal-to-liquids and metallurgical industry,
- Environmentalists
- Engineering manufacturers
- Government agencies, legislators, strategists and policy makers
- Project managers
- Academics, researchers and consultants.

TOPICS TO BE ADDRESSED

- ✓ ECONOMIC AND SOCIAL REALITIES OF CCT
 - § Costs
 - § Cost recovery mechanisms (tax, tariffs, surcharges)
 - § Consumer psychology on the need to pay
- ✓ GLOBAL OVERVIEW AND COUNTRY CASE STUDIES OF CLEAN COAL TECHNOLOGIES
- ✓ IEA-CCC REVIEW OF CCT ROADMAPS IN THE SOUTHERN AFRICAN CONTEXT
- ✓ CLEANING BEFORE USE – BENEFICIATION
- ✓ COAL-FIRED POWER STATIONS OF THE FUTURE
 - § Combustion efficiency
 - § Gasification
- ✓ SYNFUELS OF THE FUTURE
- ✓ EMISSIONS
 - § Carbon, capture and storage
 - § SO_x, NO_x, PM₁₀/PM_{2,5}, heavy metals
- ✓ ECONOMIC IMPACT OF CCT ON GDP AND GROWTH – Global and in Southern Africa
- ✓ THE FUTURE.

ANTICIPATED OUTCOMES

- Identify barriers and enablers global and local
- Identify areas for further research
- Identify other uses and value for carbon in coal
- Identify areas for capacity building
- Enhance public conceptions

PRESENTATIONS AND WORKSHOP

All presentation will be in English. Power Point presentations will be used. A CD will be produced of all presentations at the end of the conference/workshop.

The workshop will consist of an international paper followed by a South African paper and then 30-45 minutes of debate and discussions in each specific topic sessions.

ACCOMMODATION

Accommodation in the form of hotels or bed and breakfast in the vicinity can be obtained from the Conference Secretariat.

PROVISIONAL PROGRAMME* - TUESDAY 20TH APRIL 2010

13:00-14:00	REGISTRATION	
14:00-14:10	WELCOME	John Topper
14:10-14:55	OPENING ADDRESSES	John Topper - Global view on Clean Coal Technologies and CCS Mr Dick Kruger – The Coal Industry in South /Southern Africa
14:55-15:30		
15:30-16:00	TEA	
16:00-16:30	COUNTRY STUDIES	USA - Mr William Fernald - Program Manager, U.S. Department of Energy CANADA – Dr Kourosh Zanganeh
16:30-17:00		AUSTRALIA - Dr Anthony Campisi
17:00-17:30		
17:30-18:00		Mr Bill Koppe, GCCSI – Global remit and the role of the GCCSI
	COCKTAIL PARTY	

PROVISIONAL PROGRAMME* - WEDNESDAY 21ST APRIL 2010

07:30-08:30	REGISTRATION	
08:30-09:30	EUROPEAN, SOUTH AFRICAN AND GLOBAL ROADMAPS	Dr Hans Joachim Meier on Combustion Efficiency and best practice in Europe
09:30-10:00		Mr Barry MacColl on South African conditions acting for and against CCS
10:00-10:30		Dr Colin Henderson – Global CCT Roadmaps
10:30-11:00	TEA	
11:00-11:30		Mr Robert Davidson – Capture of CO ₂ in Combustion based power plant – pros and cons of different routes
11:30-12:00		Dr Tony Surridge- CO ₂ capture and storage systems in South Africa
12:00-12:30		Mr Mike Blenkinsop - Algae: Is it a realistic option for South Africa's CCS challenge?
12:30-13:00		TBA – South African Coal Roadmap – the broader picture
13:00-14:00	LUNCH	

14:00-14:30	UNDERGROUND COAL GASIFICATION	Mr Gordon Couch – Global View of UCG
14:30-15:00		Dr Mark van der Riet - Eskom's experience with UCG
15:00-15:20	EMISSION CONTROL	Dr Lesley Sloss – Emissions to air legislation; SOx NOx and particulates
15:20-15:45		Dr Lesley Sloss measurement, speciation, control of Mercury emissions from coal combustion; global protocol on mercury emissions to both water and air
15:45-16:00	TEA	
16:00-16:30	ECONOMIC IMPACT OF CCT ON GDP AND GROWTH	Mr Robbie Louw - C Trading and CDM in SA
16:30 – 17:00	THE FUTURE	FACILITATED DEBATE WITH PANEL
		<ul style="list-style-type: none"> ✓ Identify obstructions and hurdles global and local ✓ Identify enablers global and local ✓ Identify areas for further research ✓ Identify other uses and value for carbon in coal ✓ Identify areas for capacity building ✓ Enhancing public conceptions ✓ Balancing efficiency versus low GHG emissions
17:00-17:30	WRAP-UP AND SUMMARY	
	* The programme is subject to change.	

ORGANISING COMMITTEE

Chairman: Mr Dick Kruger, President FFF/Chamber of Mines

Technical Programme Committee:

Chairman: Mr Chris Gross, Eskom

Co-Chairman: Mr Dave Collins, FFF/Consultant

Dr John Topper, IEA-CCC UK

Mr Barry McColl, Eskom

Mr Paul White, Venmyn

Mr Brian North, CSIR

Ms Marie Parramon, Imbewu

Prof R Everson, North West University

Prof T Surridge, SANERI

Prof R Falcon, University of the Witwatersrand

CONFERENCE SECRETARIAT

FFF Technical Events

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REGISTRATION

The registration fee includes: - VAT, entrance to all sessions, name badge, tea & coffee breaks, lunch on day 2, cocktail party on Day 1 and CD of presentations, delegate file and printed materials.

FFF Member R2 700.00 - Non Member R3 100.00 - Fully Retired/ Academic R1 500.00

Presenter / Invited Guest – No Charge.

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AND THE SOUTHERN AFRICAN PERSPECTIVE - 20 & 21 April 2010**

Registration Form

Title (<i>Prof/Dr/Mr/Mrs/Ms</i>)					
Surname					
First Name					
Company or Organisation (<i>to be invoiced</i>)					
Company VAT number					
Purchase Order number					
Your position in company					
Postal address					
Telephone					
Mobile				Fax	
Email (<i>please print clearly</i>)					
Accounts contact person					
Accounts Tel number					
Accounts email address					
Would you like to attend the cocktail party on 20 April 2010?		Yes	No	Are you a FFF member?	
				Yes	No
REGISTRATION FEES (VAT Inclusive)					
Full Registration fees to the conference include: <i>Delegate folder, course notes, name tag, entrance to all sessions, abstract book & programme, CD of presentations, tea/coffee breaks, lunch & cocktail party.</i>					
FFF Member – R2 700.00				Non Member – R3 100.00	
Fully Retired / Academic R1 500.00				Presenter – No Charge Invited Guest – No Charge	
Signed:		Date:			

Please note: If your registration fees have not been paid by 12 April 2010 by your company you will remain personally liable for the full amount. Attendance is **STRICTLY** subject to prior payment.

An invoice will be issued on receipt of a completed registration form please forward a deposit slip or transfer form with the invoice number as a reference is required as proof of payment. Please fax this form to +27 11 728 1675 or email to robbie@rca.co.za or register@rca.co.za

CANCELLATION OF THIS REGISTRATION

Cancellation may be made in writing 10 days prior to the conference; a 25% administration fee will be charged. No refund or credit note will be issued if written cancellation is not received timeously. You will then remain liable for payment of the invoice. **Registrations are transferable.**